SEQUENCE LISTING

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<213> Homo sapiens

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Thr Glu Gly Val Gly Pro Gly Val Pro Gly Glu Val Glu Met Val Lys 20 25 30

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Gly Glu Gly Ala Tyr Gly Met Val Ser Ser Ala Tyr Asp His Val Arg 50 60

Lys Thr Arg Val Ala Ile Lys Lys Ile Ser Pro Phe Glu His Gln Thr 65 70 75 80

Tyr Cys Gln Arg Thr Leu Arg Glu Ile Gln Ile Leu Leu Arg Phe Arg 85 90 95

His Glu Asn Val Ile Gly Ile Arg Asp Ile Leu Arg Ala Ser Thr Leu 100 105 110

Glu Ala Met Arg Asp Val Tyr Ile Val Gln Asp Leu Met Glu Thr Asp 115 120 125

Leu Tyr Lys Leu Leu Lys Ser Gln Gln Leu Ser Asn Asp His Ile Cys 130 135 140

Tyr Phe Leu Tyr Gln Ile Leu Arg Gly Leu Lys Tyr Ile His Ser Ala

Asn Val Leu	His Arg Asp 165	Leu Lys	Pro Ser 170	Asn Leu	Leu Ile	Asn Thr 175	
Thr Cys Asp	Leu Lys Ile 180	Cys Asp	Phe Gly 185	Leu Ala	Arg Ile 190	_	
Pro Glu His 195	Asp His Thr	Gly Phe 200	Leu Thr	Glu Tyr	Val Ala 205	Thr Arg	
Trp Tyr Arg 210	Ala Pro Glu	Ile Met 215	Leu Asn	Ser Lys 220		Thr Lys	
Ser Ile Asp 225	Ile Trp Ser 230	_	Cys Ile	Leu Ala 235	Glu Met	Leu Ser 240	
Asn Arg Pro	Ile Phe Pro 245	Gly Lys	His Tyr 250	Leu Asp	Gln Leu	Asn His 255	
Ile Leu Ala	Leu Asp Leu 260	Leu Asp	Arg Met 265	Leu Thr	Phe Asn 270		
Lys Arg Ile 275	Thr Val Glu	Glu Ala 280	Leu Ala	His Pro	Tyr Leu 285	Glu Gln	
Tyr Tyr Asp 290	Pro Thr Asp	Glu Pro 295	Val Ala	Glu Glu 300		Thr Phe	
Ala Met Glu 305	Leu Asp Asp 310		Lys Glu	Arg Leu 315	Lys Glu	Leu Ile 320	
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<210> 4 <211> 359 <212> PRT <213> Homo sapiens

<400> 4

- Thr Glu Gly Val Gly Pro Gly Val Pro Gly Glu Val Glu Met Val Lys 20 25 30
- Gly Gln Pro Phe Asp Val Gly Pro Arg Tyr Thr Gln Leu Gln Tyr Ile $35 \hspace{1cm} 40 \hspace{1cm} 45$
- Gly Glu Gly Ala Tyr Gly Met Val Ser Ser Ala Tyr Asp His Val Arg 50 55 60
- Lys Thr Arg Val Ala Ile Lys Lys Ile Ser Pro Phe Glu His Gln Thr 65 70 75 80
- Tyr Cys Gln Arg Thr Leu Arg Glu Ile Gln Ile Leu Leu Arg Phe Arg 85 90 95
- His Glu Asn Val Ile Gly Ile Arg Asp Ile Leu Arg Ala Ser Thr Leu $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110$
- Glu Ala Met Arg Asp Val Tyr Ile Val Gln Asp Leu Met Glu Thr Asp $115 \\ 120 \\ 125$
- Leu Tyr Lys Leu Leu Lys Ser Gln Gln Leu Ser Asn Asp His Ile Cys 130 135 140
- Tyr Phe Leu Tyr Gln Ile Leu Arg Gly Leu Lys Tyr Ile His Ser Ala 145 $\,$ 150 $\,$ 155 $\,$ 160
- Asn Val Leu His Arg Asp Leu Lys Pro Ser Asn Leu Leu Ile Asn Thr 165 170 175
- Thr Cys Asp Leu Lys Ile Cys Asp Phe Gly Leu Ala Arg Ile Ala Asp 180 185 190
- Pro Glu His Asp His Thr Gly Phe Leu Thr Glu Tyr Val Ala Thr Arg 195 200 205
- Trp Tyr Arg Ala Pro Glu Ile Met Leu Asn Ser Lys Gly Tyr Thr Lys 210 215 220
- Ser Ile Asp Ile Trp Ser Val Gly Cys Ile Leu Ala Glu Met Leu Ser 225 230 235 240
- Asn Arg Pro Ile Phe Pro Gly Lys His Tyr Leu Asp Gln Leu Asn His $245 \hspace{1.5cm} 250 \hspace{1.5cm} 255$

Ile Leu Gly Ile Leu Gly Ser Pro Ser Gln Glu Asp Leu Asn Cys Ile 260 265 Ile Asn Met Lys Ala Arg Asn Tyr Leu Gln Ser Leu Pro Ser Lys Thr 280 Lys Val Ala Trp Ala Lys Leu Phe Pro Lys Ser Asp Ser Lys Ala Leu 295 300 Asp Leu Leu Asp Arg Met Leu Thr Phe Asn Pro Asn Lys Arg Ile Thr 310 315 Val Ala Glu Glu Pro Phe Thr Phe Ala Met Glu Leu Asp Asp Leu Pro 325 330 335 Lys Glu Arg Leu Lys Glu Leu Ile Phe Gln Glu Thr Ala Arg Phe Gln 340 345 Pro Gly Val Leu Glu Ala Pro 355 <210> 5 <211> 1837 <212> DNA <213> Homo sapiens <400> 5 60 gaqqaqtqqa qatqqcqqcq qcqqcqqctc aggqqgqcqq ggqcggqqaq ccccqtagaa ccqaqqqqqt cqqcccqqqq qtcccqqqqq aggtqqaqat gqtqaagqqq cagccqttcq 120 180 acgtgggccc gcgctacacg cagttgcagt acatcggcga gggcgcgtac ggcatggtca gctcggccta tgaccacgtg cgcaagactc gcgtggccat caagaagatc agccccttcg 240 300 aacatcagac ctactgccag cgcacgctcc gggagatcca gatcctgctg cgcttccgcc atgagaatgt catcggcatc cgagacattc tgcgggcgtc caccctggaa gccatgagag 360

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480 540

600

660

720

780

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<212> PRT

<213> Homo sapiens

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Met Ala Ala Ala Ala Gln Gly Gly Gly Gly Glu Pro Arg Arg 1 5 10 15

Thr Glu Gly Val Gly Pro Gly Val Pro Gly Glu Val Glu Met Val Lys 20 25 30

Gly Gln Pro Phe Asp Val Gly Pro Arg Tyr Thr Gln Leu Gln Tyr Ile $35 \hspace{1cm} 40 \hspace{1cm} 45$

Gly Glu Gly Ala Tyr Gly Met Val Ser Ser Ala Tyr Asp His Val Arg 50 55 60

Lys Thr Arg Val Ala Ile Lys Lys Ile Ser Pro Phe Glu His Gln Thr 65 70 75 80

Tyr	Cys	Gln	Arg	Thr 85	Leu	Arg	Glu	Ile	Gln 90	Ile	Leu	Leu	Arg	Phe 95	Arg
His	Glu	Asn	Val 100	Ile	Gly	Ile	Arg	Asp 105	Ile	Leu	Arg	Ala	Ser 110	Thr	Leu
Glu	Ala	Met 115	Arg	Asp	Val	Tyr	Ile 120	Val	Gln	Asp	Leu	Met 125	Glu	Thr	Asp
Leu	Tyr 130	Lys	Leu	Leu	Lys	Ser 135	Gln	Gln	Leu	Ser	Asn 140	Asp	His	Ile	Cys
Tyr 145	Phe	Leu	Tyr	Gln	Ile 150	Leu	Arg	Gly	Leu	Lys 155	Tyr	Ile	His	Ser	Ala 160
Asn	Val	Leu	His	Arg 165	Asp	Leu	Lys	Pro	Ser 170	Asn	Leu	Leu	Ile	Asn 175	Thr
Thr	Cys	Asp	Leu 180	Lys	Ile	Cys	Asp	Phe 185	Gly	Leu	Ala	Arg	Ile 190	Ala	Asp
Pro	Glu	His 195	Asp	His	Thr	Gly	Phe 200	Leu	Thr	Glu	Tyr	Val 205	Ala	Thr	Arg
Trp	Tyr 210	Arg	Ala	Pro	Glu	Ile 215	Met	Leu	Asn	Ser	Lys 220	Gly	Tyr	Thr	Lys
Ser 225	Ile	Asp	Ile	Trp	Ser 230	Val	Gly	Cys	Ile	Leu 235	Ala	Glu	Met	Leu	Ser 240
Asn	Arg	Pro	Ile	Phe 245	Pro	Gly	Lys	His	Tyr 250	Leu	Asp	Gln	Leu	Asn 255	His

Ile Leu Gly Ile Leu Gly Ser Pro Ser Gln Glu Asp Leu Asn Cys Ile 260 265 270

Ile Asn Met Lys Ala Arg Asn Tyr Leu Gln Ser Leu Pro Ser Lys Thr 275 280 285

Lys Val Ala Trp Ala Lys Leu Phe Pro Lys Ser Asp Ser Lys Ala Leu 290 295 300

Asp Leu Leu Asp Arg Met Leu Thr Phe Asn Pro Asn Lys Arg Ile Thr 305 310 315 320

Val Glu Glu Ala Leu Ala His Pro Tyr Leu Glu Gln Tyr Tyr Asp Pro 325 330 335

Thr Asp Glu Pro Val Ala Glu Glu Pro Phe Thr Phe Ala Met Glu Leu 340 345 350

Ala Arg Phe Gln Pro Gly Val Leu Glu Ala Pro 370 375

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<212> PRT

<213> Homo sapiens

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Thr Glu Gly Val Gly Pro Gly Val Pro Gly Glu Val Glu Met Val Lys
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Gly Gln Pro Phe Asp Val Gly Pro Arg Tyr Thr Gln Leu Gln Tyr Ile 35 40 45

Gly Glu Gly Ala Tyr Gly Met Val Ser Ser Ala Tyr Asp His Val Arg 50 60

Lys Thr Arg Val Ala Ile Lys Lys Ile Ser Pro Phe Glu His Gln Thr 65 70 75 80

Tyr Cys Gln Arg Thr Leu Arg Glu Ile Gln Ile Leu Leu Arg Phe Arg 85 90 95

His Glu Asn Val Ile Gly Ile Arg Asp Ile Leu Arg Ala Ser Thr Leu 100 105 110

Glu Ala Met Arg Asp Val Tyr Ile Val Gln Asp Leu Met Glu Thr Asp 115 120 125 Leu Tyr Lys Leu Leu Lys Ser Gln Gln Leu Ser Asn Asp His Ile Cys Tyr Phe Leu Tyr Gln Ile Leu Arg Gly Leu Lys Tyr Ile His Ser Ala 150 Asn Val Leu His Arg Asp Leu Lys Pro Ser Asn Leu Leu Ile Asn Thr 170 Thr Cys Asp Leu Lys Ile Cys Asp Phe Gly Leu Ala Arg Ile Ala Asp 180 185 Pro Glu His Asp His Thr Gly Phe Leu Thr Glu Tyr Val Ala Thr Arg Trp Tyr Arg Ala Pro Glu Ile Met Leu Asn Ser Lys Gly Tyr Thr Lys 215 Ser Ile Asp Ile Trp Ser Val Gly Cys Ile Leu Ala Glu Met Leu Ser Asn Arg Pro Ile Phe Pro Gly Lys His Tyr Leu Asp Gln Leu Asn His 250 Ile Leu Gly Ile Leu Gly Ser Pro Ser Gln Glu Asp Leu Asn Cys Ile 260 Ile Asn Met Lys Ala Arg Asn Tyr Leu Gln Ser Leu Pro Ser Lys Thr 275 Lys Val Ala Trp Ala Lys Leu Phe Pro Lys Ser Asp Ser Lys Ala Leu 295 290 Asp Leu Leu Asp Arg Met Leu Thr Phe Asn Pro Asn Lys Arg Ile Thr 315 Val Ala Glu Glu Pro Phe Thr Phe Ala Met Glu Leu Asp Asp Leu Pro 330 325 Lys Glu Arg Leu Lys Glu Leu Ile Phe Gln Glu Thr Ala Arg Phe Gln 345

Pro Gly Val Leu Glu Ala Pro